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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/370,981	08/10/1999	YUICHIRO OGAWA	104018	8747

25944 7590 10/23/2002

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EXAMINER	
FISCHER, JUSTIN R	

ART UNIT	PAPER NUMBER
1733	14

DATE MAILED: 10/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-14

Office Action Summary	Application No.	Applicant(s)	
	09/370,981	OGAWA, YUICHIRO	
	Examiner	Art Unit	
	Justin R Fischer	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 August 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4 and 6-10* is/are pending in the application.

4a) Of the above claim(s) *6 and 8-10* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4 and 9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 2, 4, and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In defining at least one of the bead cores, the claim requires that "one or more steel wires are arranged lengthwise and widthwise in radial and widthwise directions of the tire" (lines 8-10). This language was initially interpreted by the examiner as requiring at least one of the bead cores to have a geometry that included a series of rows and columns. However, in light of applicant's arguments, it is unclear exactly what limitations this language requires, rendering the claims indefinite. Applicant states that the structure of the bead cores in Gojo (JP' 404) cannot be arranged lengthwise and widthwise in radial and widthwise directions because to provide such a structure would prevent the creation of a polygonal or circular shape as required by the reference. It is the examiner's position, though, that the bead cores of Gojo, which can be polygonal or circular (reference does not require auxiliary bead core to be circular), are formed of a series of rows and columns and as such meet the limitations of the claimed invention. If this contention by applicant is correct (bead cores of Gojo fail to meet limitations of claimed invention), it appears that the language of the claimed invention requires that the respective bead cores be rectangular. Thus, it is currently unclear what limitations this language requires,

especially in view of applicant's arguments. Applicant is asked to clarify the meaning of the aforementioned language without the introduction of new matter.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 2, 4, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gojo (JP 3-243404, of record) in view of Ueyoko (US 5,885,387, of record). Gojo and Ueyoko are applied in the same manner as set forth in Paper Number 10, Paragraph 4. As best depicted in Figure 1 of Gojo, the reference depicts a heavy-duty, pneumatic tire structure having a pair of bead cores (2,3) in each bead portion such that they are adjacent to each other in the widthwise direction. The reference also depicts a carcass structure (9) having a roundtrip return portion that is sandwiched between said pair of bead cores in each bead portion and extends from an inside toward an outside of the tire. Furthermore, though the reference does not describe the construction of said bead cores, it is clearly evident from Figure 1 of Gojo that both the auxiliary (3) and main (2) bead cores have a conventional bead structure in which one or more steel wires are arranged lengthwise and widthwise in radial and widthwise (axial) directions of the tire (contain a series of rows and columns). However, the reference, in describing the carcass structure, is completely silent with respect to the use of a single, continuous cord. Ueyoko, on the other hand, describes a heavy-duty, pneumatic tire construction in

which an endless carcass cord ply is employed. The use of such a carcass structure increases the bead durability and contributes to the reduction of tire weight, both of which are desirable in all tires. As such, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the single, continuous cord structure in the carcass, as suggested by Ueyoko, in the general tire structure of Gojo, as set forth below.

With respect to claims 1, 2, and 4, Gojo clearly depicts a bead portion in which a carcass structure is sandwiched between two adjacent bead cores and extends from an inside toward an outside of the tire, such that a terminal part of said carcass structure extends along an outer face of the axially outermost bead core. However, the reference is completely silent with respect to the carcass construction, though one of ordinary skill in the art at the time of the invention would have readily expected the carcass to be formed of several cords embedded in a rubber ply (presence of cut ends). In any event, Ueyoko, which is similarly directed to a heavy-duty tire, suggests the use of a single, continuous cord to form the carcass structure. Ueyoko states that such a carcass structure improves bead durability and contributes to the reduction of tire weight. Thus, the use of a single, continuous cord in the carcass structure of Gojo would have been readily appreciated by one of ordinary skill in the art at the time of the invention for the benefits detailed above. It should be noted that Ueyoko specifically describes the disadvantages of conventional carcass ply turnups in heavy-duty tires, in which stresses buildup at the turnup end, adhesion between said turnup end and the adjacent rubber deteriorates, and bead durability / reinforcement is compromised (Column 1, Lines 25-

57). Thus, the use of a continuous carcass cord versus a rubber/cord laminate would have been readily appreciated by one of ordinary skill in the art at the time of the invention.

Regarding claim 9, applicant requires that the roundtrip return portion of the carcass ply cord have multiple, overlapping terminal parts. Ueyoko, in describing this unique carcass design, discloses the use of a multiplicity of folding points, which is analogous to "multiple, overlapping terminal parts". The use of such a carcass design further enhances the bead durability, while promoting the weight reduction of the tire. The reference describes this turnup structure in Column 2, Line 10, saying the carcass cord ply is provided with a multiplicity of folding points arranged in the tire's circumferential direction at both outer ends of the cord ply. The turnup structure is additionally depicted in Figure 3.

Response to Arguments

5. Applicant's arguments filed August 13, 2002 have been fully considered but they are not persuasive. Applicant provides the following two arguments: (1) Gojo fails to suggest a tire design in which at least one of two bead cores has a structure such that one or more steel wires are arranged lengthwise and widthwise in the radial and widthwise directions, (2) Gojo fails to suggest a radial carcass comprised of a rubberized ply of a continuous cord.

First, as stated in the 112, 2nd ¶ rejection above, it is the examiner's position that the bead cores of Gojo are formed of "one or more steel wires are arranged lengthwise and widthwise in the radial and widthwise directions", wherein this language defines a

series of rows and columns. Second, it is acknowledged that Gojo fails to suggest a radial carcass comprised of a rubberized ply of a continuous cord. In this instance, Gojo is directed to a tire design that incorporates a conventional carcass structure formed of a ply or laminate that contains a series of segmented reinforcing elements (not a continuous cord). Ueyoko, though, suggests the use of a continuous carcass cord versus a conventional carcass laminate, particularly in heavy-duty tires, for the benefits of increasing bead durability and contributing to the reduction of tire weight. The reference expressly states that a continuous carcass cord, as compared to a conventional carcass laminate, (a) eliminates or reduces the buildup of stresses at the turnup end, (b) eliminates the reduction of adhesion at the turnup end, and (c) enhances the overall bead durability / reinforcement. Thus, one of ordinary skill in the art at the time of the invention would have been motivated to modify the carcass construction of Gojo in view of Ueyoko for the benefits detailed above.

Additionally, applicant contends that the use of a polygonal shape for the main bead core and a circular shape for the auxiliary bead core in Gojo prohibits the carcass from being strongly sandwiched between said bead cores. As depicted in Figure 1, Gojo expressly discloses a tire embodiment in which the main carcass portion extends between respective bead cores and is turned around the axially outer bead core. In describing the bead cores, Gojo states that the main bead core and the auxiliary bead core can be formed of a polygonal (greater than or equal to 6 sides) or circular element. The reference makes no indication that the auxiliary bead core is always formed of a circular element. In a related issue, applicant contends that there are gaps between the

carcass and the two ends of the polygonal-shaped main bead core of Gojo. As currently drafted, though the claim requires a pair of bead cores that are adjacent one another, wherein at least one of the bead cores is formed of the claimed orientation. In this instance, Gojo teaches a tire design having the claimed orientation and as such, Gojo in view of Ueyoko suggest all the limitations of the claimed invention.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R Fischer** whose telephone number is **(703) 605-4397**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703) 308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Justin Fischer

October 18, 2002